

Georisks

Master in Earth, planetary and environmental sciences



Duration
2 years



Component
UFR PhITEM
(physique,
ingénierie, terre,
environnement,
mécanique)



Language(s) of
instruction
English, French

Presentation

Telluric risks (seismic, gravity-related) are an increasingly important issue for our societies, which have become more and more vulnerable to these risks due to population increases in high-hazard areas. The need to understand, control and manage telluric risks is therefore growing sharply, in France and elsewhere in the world. The Georisks program has been created to respond to this need. The training is organised over two years with a series of modules in common with other programmes in the specialisation, as well as modules specific to this program. Training in the field, in a company or in a research laboratory plays a key role in this program.

The Georisks program has strong links with the international master in Earthquake engineering and engineering seismology (MEEES; Erasmus Mundus master) and shares many elements with this course.

The aim of the Georisks program is to train students in the geophysics of natural risks with a view to them working in research or the private sector, in natural risk assessment or the geophysical reconnaissance of callows.

The training combines theoretical and practical approaches. It provides a range of skills that encompass the different natural risks. Students graduating from this program are considered fully trained. In the area of seismic and gravity-related risks,

employment opportunities in the short term may, for instance, be enhanced by implementation of the recent earthquake-resistance regulations, which require studies of soil behaviour calling on geophysical measurements, as well as the future national plan on dams and earthquakes.

International education : Internationally-oriented programmes

International dimension

The program has a strong international focus, with teaching mostly in English and internship opportunities in a company or in a research laboratory abroad. Several foreign students are welcomed onto the program every year.

The course shares many elements with the Erasmus Mundus master MEEES.

Organisation

Admission

Access conditions

- The 1st year is open to students who have obtained a national diploma equivalent to a bachelor degree (licence) in a field compatible with that of the master, or via a validation of their studies or experience
- Entry to the 2nd year may be selective. It is open to candidates who have completed the 1st year of a Master in the field, subject to a review of their application

Public continuing education : You are in charge of continuing education :

- if you resume your studies after 2 years of interruption of studies
- or if you followed training under the continuous training regime one of the previous 2 years
- or if you are an employee, job seeker, self-employed

If you do not have the diploma required to integrate the training, you can undertake a [🔗](#) validation of personal and professional achievements (VAPP)

Candidature / Application

For candidates whose country of residence is not included in the "Studies in France" portal (PEF) scheme, the calendar for the eCandidat application campaigns is available [🔗](#) here

You want to apply and sign up for a master ? Please be aware that the procedure differs depending on the diploma you want to take, the diploma you have already obtained and, for foreign students, your place of residence. Let us be your guide – simply follow this [🔗](#) link

Target

- Students in initial training who have obtained a bachelor degree (licence) in Earth, physical, or mechanical sciences
- Foreign students wishing to pursue their studies in the field of telluric risks in France
- Students in continuing education wishing to pursue advanced studies in the field of telluric risks

Fees

Tuition fees 2019-2020: 243 €

Prerequisites

This course is intended for students in geosciences with a strong interest in working in the natural risks sector. Students have solid training in physics, geosciences and/or civil engineering.

And after

Further studies

This course prepares students either to continue in the private or semi-state sector (consultancies, EPIC, local authorities), or to go on to do a doctoral thesis. The skills acquired in this course will provide the student with the experience needed to successfully pursue either of these two directions.

Reorientation

A reorientation to the Geophysics Programme is possible up to the end of the M1. Depending on the choice of UEs in semesters 7 and 8, reorientations to the Geodynamics or Georesources programmes are also possible.

Professional integration statistics

According to the 2014-15 survey, nine graduate respondents were on the labour market (employment+research). Of these, 89% were in employment 30 months after graduation.

Useful info

Contacts

Program director

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Program administration

Registrar's Office of the Master in Earth,
planetary and environmental sciences

✉ phitem.master.stpe@univ-grenoble-alpes.fr

Program administration

Application

✉ phitem.candidature.etudiant@univ-grenoble-alpes.fr

Partner laboratories

Institute of Earth Sciences - ISTerre

🔗 <https://www.isterre.fr>

Course location(s) - City

📍 Grenoble

Campus

🏠 Grenoble - University campus

Program

Solid earth portal 1st year

Semester 7

	Nature	CM	TD	TP	Crédits
UE Data and models in earth sciences	Teaching Unit (UE)				6 credits
UE Geophysical prospecting	Teaching Unit (UE)			15h	6 credits
UE Numerical analysis project	Teaching Unit (UE)		12h		3 credits
UE Physics and chemistry of the earth	Teaching Unit (UE)				6 credits
UE Geomechanics	Teaching Unit (UE)				3 credits
UE Scientific & professional communication	Teaching Unit (UE)				3 credits
UE Intro workshop - professional project	Teaching Unit (UE)		6h		3 credits

Semester 8

	Nature	CM	TD	TP	Crédits
UE Instrumentation and metrology	Teaching Unit (UE)				6 credits
UE Remote sensing and GIS project	Teaching Unit (UE)	24h		24h	6 credits
UE Movements of land, avalanches, protective works	SUBJECT	18h			3 credits
UE Exploration geophysics	Teaching Unit (UE)				6 credits
UE Wave physics	Teaching Unit (UE)				6 credits
UE Passive seismic site characterization	Teaching Unit (UE)				3 credits

UE Dynamics and volcanic risk	Teaching Unit (UE)		3 credits
UE Induced seismicity	Teaching Unit (UE)		3 credits
UE Subsurface modelling	Teaching Unit (UE)	30h	3 credits

Master 2nd year

Semester 9

	Nature	CM	TD	TP	Crédits
UE Quantitative seismology	Teaching Unit (UE)				6 credits
UE Engineering seismology	Teaching Unit (UE)				6 credits
UE Active faults and remote sensing	Teaching Unit (UE)				6 credits
UE Dynamics of the Earth's surface	Teaching Unit (UE)				6 credits
UE Advanced gravitational risk	Teaching Unit (UE)				3 credits
UE Project on seismic hazard assessment	Teaching Unit (UE)				3 credits
UE Risk management: regulatory and alternative approaches	Teaching Unit (UE)	26h		24h	6 credits
UE Signal processing	Teaching Unit (UE)				6 credits
UE Near surface geophysics	Teaching Unit (UE)				6 credits
UE Numerical modeling workshop	Teaching Unit (UE)	8h			6 credits

Semester 10

	Nature	CM	TD	TP	Crédits
UE Research internship	CHOICE				
UE Company internship	CHOICE				